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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/471,669	12/24/1999	JOHN P. ANDERSON	00228-US-NEW	7795

20350 7590 12/16/2005

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EXAMINER

WALICKA, MALGORZATA A

ART UNIT PAPER NUMBER

1652

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/471,669

Applicant(s)

ANDERSON ET AL.

Examiner

Malgorzata A. Walicka

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09/01/05.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 48,51-69 and 114-390 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 48, 51-69 and 114-390 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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Amendment and Information Disclosure Statement were filed in this application on September 1, 2005.

Claims 1-47 have been previously withdrawn and claims 49-50, and 70-113 have been previously canceled. Claims 48, 114, 122, 130, 138, 146, 154, 162, 170, 348 have been amended. Claims 48, 51-69, and 114-390 are pending and under examination.

## **Detailed Office Action**

### **1. Objections**

Objections to the claims have been withdrawn, because claims 26-390 have been renumbered as claims 125-389 and dependence of these claims corrected accordingly.

Claim 48, 114, 122, 131, 139, 147, 155, 163 and 171 are objected to because the limitation "comprising a sequence of beta secretase encoding nucleotides, the beta-secreatse encoding nucleotides consisting of nucleotides encoding". Beta secretase does not encode any nucleotide. A nucleotide is a chemical compound which is not encoded. One skilled in the art realizes that this is a sequence of nucleotides that encodes a protein. Nucleotides as such do not encode anything. For examination purposes it is assumed that Applicants claim an isolated nucleic acid comprising a sequence that encodes SEQ ID NO: X or comprising a sequence complementary to the encoding sequence.

### **2. Rejections**

#### **2.1. 35 U.S.C. 112, second paragraph**

Claim 48, 114, 122, 131, 139, 147, 155, 163 and 171 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are confusing in reciting the open language "comprising a sequence of beta-secretase encoding nucleotides" and the closed language "the beta-

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secretase encoding nucleotides consisting of". Reciting the open and closed phrases together is confusing, because it is unknown which language is intended by Applicants.

Dependent claims 51-57, 115-121, 123-130, 132-138, 140-146, 148-154, 156-162, 164-170, 172-178 are included in the rejection because they do not correct the language of the claims from which they depend.

**Also rejected are:**

claims 58-69

claims 178-183 and 240-258

claims 184-189 and 259-277

claims 190-195 and 278-296

claims 196-201 and 297-313

claims 202-207 and 314-332

claims 208-213 and 333-351

claims 214-219 and 352-370

claims 220-225 and 371-389.

Claims 58, 178, 184, 190, 196, 202, 208, 214, 220 are confusing because the language "a vector comprising a sequence of nucleotides that encodes SEQ ID NO: 43, 58, 59, 60, 67, 68, 69, 70 and 74" is confusing, rendering the claims confusing. One of skill in the art understands said language to mean that the vector comprises the nucleotides sequence consisting of the start codon before the first codon of the nucleotide sequence translated from amino acid sequence of SEQ ID NO: 43, 58, 59, 60, 67, 68, 69, 70 and 74 and the stop codon immediately after the translated sequence; i.e., one of skill in the art understands that the expressed sequence will consist of SEQ ID NO: 43, 58, 59, 60, 67, 68, 69, 70 and 74. However, a literary meaning of the language "a vector comprising a sequence of nucleotides that encodes SEQ ID NO: 43, 58, 59, 60, 67, 68, 69, 70 and 74" covers any DNA molecules comprising a nucleotide sequence encoding SEQ ID NO: 43, 58, 59, 60, 67, 68, 69, 70 and 74. One of DNA molecules comprising molecules encoding SEQ ID NO: 43, 58, 59, 60, 67, 68, 69, 70 and 74 has already been

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patented; see the rejection under 35 U.S.C. section 102 bellow. It is important to amend the language of the claims to be precise. As it stands now, the Applicants' intentions are not clear.

In addition, the language of claims 64, 240, 259, 278, 297, 314, 333, 352, and 371 is confusing, rendering the claims confusing. On the one hand, one skilled in the art understands that the language of independent claim 64, 240, 259, 278, 297, 314, 333, 352, and 371 "a heterologous cell comprising a nucleic acid molecule encoding SEQ ID NO: 43, 58, 59, 60, 67, 68, 69, 70 and 74" means that the heterologous cell comprises the nucleotides sequence consisting of the start codon before the first codon of the nucleotide sequence translated from amino acid sequence of SEQ ID NOs: 43, 58, 59, 60, 67, 68, 69, 70 and 74 and the stop codon immediately after the translated sequence; i.e., one of skills in the art understands that the sequence expressed in the heterologous cell will consists of SEQ ID NO: 43, 58, 59, 60, 67, 68, 69, 70 and 74. On the other hand, the literary meaning covers a heterologous cell comprising any DNA molecule comprising a nucleotide sequence encoding SEQ ID NO: 43, 58, 59, 60, 67, 68, 69, 70 and 74. One of DNA molecules comprising molecules encoding SEQ ID NO: 43, 58, 59, 60, 67, 68, 69, 70 and 74 has already been patented and taught how to be expressed; see the rejection under 35 U.S.C. section 102 bellow. It is important to amend the language of the claims to be precise. As it stands now, the Applicants' intentions are not clear.

## **2.2. 35 U.S.C. 102**

### **A. Claims rejected**

Claims 48 and 51-57, claims 114-121, claims 122-129, claims 130-137, claims 138-145 claims, claims 146-153, claims 154-161, claims 162-169 and claims 170-177 are rejected for the reasons explained in the Office Action of March 1, 2005 (previous action), which are reminded herein. Each set of the claims is directed to

an isolated nucleic acid molecule

expression vector, and

host cell ,

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wherein the nucleic acid molecule comprises a sequence of nucleotides encoding a truncated form of human beta secretase of SEQ ID NO: 2 consisting of 501 amino acids. The claimed truncated forms retain beta-secretase activity and are identified by

SEQ ID NO: 43 (amino acids 46-501)

SEQ ID NO: 58 (amino acids 46-452)

SEQ ID NO: 59 (amino acids 1-452)

SEQ ID NO: 60 (amino acids 1-420)

SEQ ID NO: 67 (amino acids 58-501)

SEQ ID NO: 68(amino acids 58-452)

SEQ ID NO: 69 (amino acids 63-501)

SEQ ID NO: 70 (amino acids 63-452)

SEQ ID NO: 74 (amino acids 22-452)

In summary, each of the sets of the claims is rejected over Gurney et al., with priority to the provisional application 60/101,594 ('594) filed Sept. 24, 1998 (see SEQ ID NO: 5). As this benefit of the filing date of the '594 provisional application is necessary for Gurney et al. to qualify as prior art under 102(e), the rejection is explained with reference to the provisional application.

'594 discloses also expression of ASP2 in heterologous cells which are bacterial, insect, yeast or mammalian cells; see Example 4, line 15, and specification page 10 line 23, page 11 line 1 and page 11 line 18. '594 teaches also expression vectors useful for transformation; see page 9, line 11, page 10 line 28 and page 11 line 24.

In summary '594 anticipates all what is claimed in the sets of claims as written above.

### **Response to Applicants arguments**

Applicants in the Remarks of September 1, 2005, traverse the above rejection on the ground that the document of Gurney

- 1) misidentifies the location of the transmembrane region of this isolated aspartyl protease,

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- 2) does not identify the signal sequence or pro region occupying amino acids 1-21 and 22-45 of the protein,
- 3) misidentifies the function of its aspartyl protease as gamma secretase, as evidenced by the title, and
- 4) does not express the aspartyl protease as a protein.

As to point 1), misidentification of the transmembrane region of the aspartyl protease of SEQ ID NO:2 (6 in document of Gurney) has nothing to do with the fact that the DNA molecules claimed by Applicants are anticipated by the DNA of SEQ ID NO: 5 disclosed by Gurney. Gurney's SEQ ID NO: 5 comprises all DNA encoding the truncated forms of SEQ ID NO: 2 of the instant application.

As to point 2) the fact that Gurney does not identify the signal sequence or pro region occupying amino acids 1-21 and 22-45 of the protein, has nothing to do with the fact the DNA molecules claimed by Applicants are anticipated by the DNA of SEQ ID NO:5 disclosed by Gurney. Gurney's SEQ ID NO:5 comprises all DNA encoding the truncated forms of SEQ ID NO: 2 of the instant application.

Regarding to point 3) the identification of aspartyl secretase of SEQ ID NO:6 as gamma secretase is not clear in Gurney' at al.'s application. Even if one of skills in the art accepts the title as the proof of the enzymatic activity, the rejected claims are not directed to the method of use of the protein encoded by the claimed DNA sequences but only to DNA sequences as such, i.e., to a product. That very product was disclosed by Gurney at al.

Furthermore, the function of encoding beta-secretase is an inherent feature of SEQ ID NO:5 of Gurney at al. Applicants did not provide teachings to the contrary. Any polypeptide of the instant invention being a truncated form of SEQ ID NO:2 is bound to be encoded by the polynucleotide comprised in SEQ ID NO:5 of Gurney et al. These polypeptides are encoded by DNA molecules consisting of fragments of SEQ ID NO: 5 disclosed by Gurney. These encoding fragments are not disclosed by Gurney and are novel and nonobvious.

Regarding point 4) the examiner quotes the relevant pages and line of Gurney et al. teaching expression of their aspartyl protease.

## **B. Claims not rejected**

Applicants are reminded that

claims 58-69

claims 178-183 and 240-258

claims 184-189 and 259-277

claims 190-195 and 278-296

claims 196-201 and 297-313

claims 202-207 and 314-332

claims 208-213 and 333-351

claims 214-219 and 352-370

claims 220-225 and 371-389

are not rejected under 35 USC section 102 or 35 USC section 103, because

- 1) it is understood that the language of independent claims 58, 178, 184, 190, 196, 202, 208, 214, 220 "a vector comprising a sequence of nucleotides that encodes SEQ ID NO: 43" means that the vector comprises the nucleotides sequence consisting of the start codon before the first codon of the nucleotide sequence translated from amino acid sequence of SEQ ID NOs: 43, 58, 59, 60, 67, 68, 69, 70 and 74 and the stop codon immediately after the translated sequence; i.e., it is understood that the expressed sequences are consisting of SEQ ID NO:43, 58, 59, 60, 67, 68, 69, 70 and 74
- 2) it is understood that the language of independent claim 64, 240, 259, 278, 297,314, 333, 352, and 371 "a heterologous cell comprising a nucleic acid molecule encoding SEQ ID NO: 43, 58, 59, 60, 67, 68, 69, 70 and 74 " means that the heterogonous cell comprises the nucleotides sequence consisting of the start codon before the first codon of the nucleotide sequence translated from amino acid sequence of SEQ ID NOs: 43, 58, 59, 60, 67, 68, 69, 70 and 74 and the stop codon immediately after the translated sequence.



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Thus it is understood that the heterologous cell expresses polypeptides consisting of  
SEQ ID NO: 43, 58, 59, 60, 67, 68, 69, 70 and 74.

The examiner suggests amending the claims accordingly.

#### **2.4. 35 USC, first paragraph**

Claim 63, 184, 190, 196, 202, 208, 214, 220 and 226 rejected under 35 U.S.C. 112, for the reasons explained in the previous Office Action.

#### **Reply to Applicants' response**

Applicants' do not address the rejection for scope of enablement issued in the previous Office Action.

#### **2.5. Double patenting rejection**

##### **Provisional obviousness type double patenting rejection**

Claims 48, 51-69, and 114-390 are rejected for the reasons explained in the previous Office Action.

##### **Provisional statutory double patenting rejection**

Claim 114, 48, 131, and 171 are provisionally rejected for the reasons explain in the previous Office Action. as claiming the same invention as claims 57-60 of the US application No. 09/724,569.

#### **Reply to Applicants' response**

Applicants' do not address the rejection for provisional double patenting issued in the previous Office Action.

#### **3. Conclusion**

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Malgorzata A. Walicka whose telephone number is (571) 272-0944. The examiner can normally be reached on Monday-Friday from 10:00 a.m. to 4:30 p.m.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapura Achutamurthy, can be reached on (571) 272-0928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Malgorzata A. Walicka, Ph.D.

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Patent Examiner

  
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